CLAIMS

1. A synthesiser comprising:

a memory, containing a plurality of stored samples;

means for calculating an output signal for each of a plurality of active voices, using a plurality of samples selected from the stored samples for each of the active voices;

wherein the number of samples used for each active voice by the means for calculating depends upon the number of active voices.

2. A synthesiser as claimed in claim 1, wherein the number of samples used for each active voice by the means for calculating decreases as the number of active voices increases.

3. A synthesiser as claimed in claim 2, wherein the number of samples used for each active voice by the means for calculating decreases as the number of active voices increases so that a maximum computational complexity is not exceeded.

4. A synthesiser as claimed in claim 1, wherein the number of samples used for each active voice by the means for calculating decreases non-linearly as the number of active voices increases.

5. A synthesiser as claimed in one of claims 1 to 4 wherein the plurality of samples stored in the memory comprise samples of musical notes.

6. A synthesiser as claimed in claim 5 wherein the plurality of samples stored in the memory comprise

samples of musical notes produced by different musical instruments.

7. A synthesiser as claimed in any preceding claim wherein the means for calculating an output signal comprises a filter table.

8. A synthesiser as claimed in claim 7 wherein the filter table contains coefficients of a sinc function.

9. A synthesiser as claimed in any preceding claim, wherein the synthesiser is a MIDI music synthesiser.

10. A portable device, comprising a synthesiser as claimed in any preceding claim.

11. A portable device as claimed in claim 10 wherein the portable device is a mobile phone.

12. A portable device as claimed in claim 10 wherein the portable device is a pager.

13. A method of operating a synthesiser having a plurality of samples stored in a memory, the method comprising the steps of:

determining the number of voices that will be active in producing a sound;

determining an interpolation degree on the basis of the number of voices that will be active, wherein the interpolation degree is defined as the number of samples to be selected from the plurality of samples stored in the memory; and

calculating an output for each active voice, using the number of said stored samples determined by the interpolation degree.

14. A method as claimed in claim 13, wherein the interpolation degree decreases as the number of active voices increases.

15. A method as claimed in claim 13, wherein the interpolation degree decreases as the number of active voices increases so that a maximum computational complexity is not exceeded.

16. A method as claimed in claim 13, wherein the interpolation degree decreases non-linearly as the number of active voices increases.

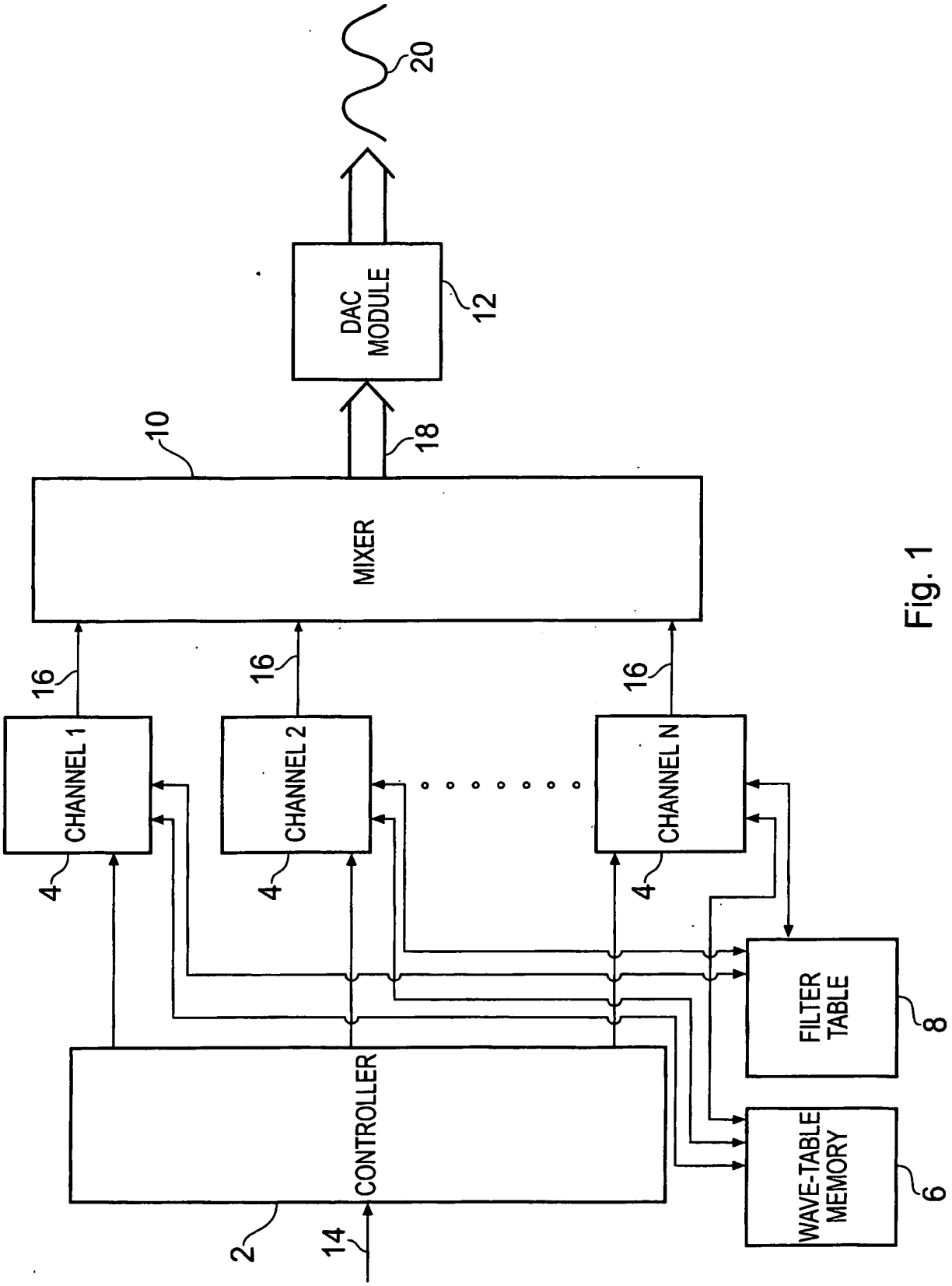

Fig. 1

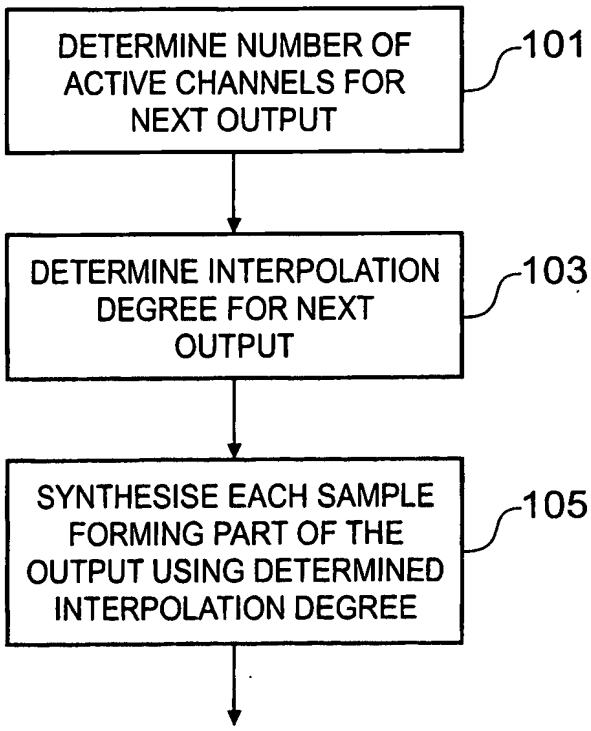

Fig. 2

NO. ACTIVE CHANNELS	INTERPOLATION DEGREE
1	11
2	11
3	11
4	10
5	10
6	10
7	9
8	9
9	9
10	8
11	8
12	8
13	7
14	7
15	7
16	6
17	6
18	6
19	5
20	5
21	5
22	4
23	4
24	4

Fig. 3

NO. ACTIVE CHANNELS	INTERPOLATION DEGREE
1	11
2	11
3	11
4	11
5	11
6	11
7	11
8	11
9	11
10	10
11	9
12	8
13	7
14	7
15	6
16	6
17	5
18	5
19	5
20	5
21	4
22	4
23	4
24	4

Fig. 4